The effect of gold price and NIKKEI on market return in Indonesia

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ABSTRACT

The great economic growth in 2021 has a positive impact on the capital market in Indonesia. The Japanese capital market and world gold prices are important indicators of the world economy. The purpose of this study is to examine the impact of movements in returns from gold and NIKKEI on market returns in Indonesia. The sample is taken during observation period from January 2021 to December 2021. This study finds that GOLD has insignificant effect on IHSG but NIKKEI has a significant positive effect. The findings indicate that investor neutral and positively to market conditions.

Keywords: IHSG; NIKKEI; gold; returns
JEL Classification: F15; G11; G15

1. Introduction

Gold as a precious metal has extraordinary appeal to the public and is classified as crucial for the industry. Gold is an asset that is safe (safe haven) which is an alternative investment when turmoil occurs in the financial market (Puspitasari et al., 2022). Gold itself is in great demand because it tends to have a high value as inflation increases (Kristhy et al., 2022). Gold is considered one of the indicators of long-term investment or hedging. Empirically, Puspitarani and Sampurno (2016) emphasize that the increase in gold prices causes investors to tend to divest shares, causing the capital market index to decrease.

A well-known Asian market is the Japanese capital market. According to Zulfira (2019), the relationship between Indonesia and Japan has a positive impact on the economy. Zulfira (2019) explains that the economic relations between Indonesia and Japan are embodied in various collaborations, causing the relationship between the two capital markets to integrate positively. In 2021, the Indonesian economy will experience growth of 3.69% and higher than in 2020 of 2.07% (https://www.bps.go.id). This proves that Indonesia has succeeded in improving economic growth since the COVID-19 pandemic and that it has a positive impact on market index (or IHSG) movements. Figure 1 shows that during 2021 the movement of market returns in Indonesia tends to follow the pattern of return movements from gold and NIKKEI. The purpose of this study is to examine the impact of movements in returns from gold and NIKKEI on market returns in Indonesia.
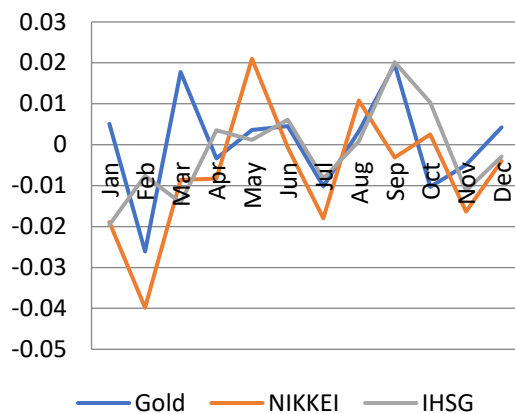
Figure 1. The returns during 2021

2. Literature review

2.1. The relationship of gold and IHSG

Faraga et al. (2012) find that global economic conditions that are less stable due to world oil price turmoil tend not to result in world gold prices significantly influencing the IHSG movement from January 2000 to January 2013. Anggriana and Paramita (2020), and Basit (2020) consistently prove that the gold price did not significantly affect the IHSG throughout the period from 2016 to 2019. Recently, Adnyana et al. (2022) also show that changes in the world gold price did not significantly affect the movement of the IHSG from 2012 to 2020. Ambarwati et al. (2022) also show that from January 2020 to March 2020 the world gold price had no significant effect on the IHSG. On the other hand, Khoiri and Arghawaty (2020) prove that increases in world gold prices tend to have a negative impact on the IHSG from 1 March 2020 to 2 July 2020. Consistently, Sukri and Abundanti (2023) also prove that gold prices tend to have a negative and significant impact on the IHSG, especially throughout the period from December 2019 to August 2021. Based on review, the hypothesis of this study noted as follows.

H1: Gold is significant on IHSG

2.2. The relationship of NIKKEI and IHSG

Rohmawati and Zuhroh (2019) prove that the increase in NIKKEI had a significant positive impact on the IHSG from 2002 to 2016. Darmawan and Saiful Haq (2022) find that NIKKEI had a positive effect on the IHSG from January 2010 to December 2019. In contrast, Wicaksono and Yasa (2017) find that NIKKEI had a negative and significant effect on the IHSG from January 2010 to December 2015. Bakhtiar and Purwani (2021) find that NIKKEI had a negative and significant relationship with the IHSG from 2014 to 2018. Nuraeni and Panjawa (2021) also prove that NIKKEI had a negative effect and is significant to the IHSG in the period January 2016 to December 2020. However, Gerung et al. (2022) also find that NIKKEI had a positive impact in the period June to December 2021 but had a negative impact in the period January to May 2022. Other evidence also shows that from 2 January to 31 August 2018, Damajanti et al. (2018) find that NIKKEI does not significantly affect the IHSG. In addition, from 2017 to 2019, Putra et al. (2021) also report that NIKKEI had no significant effect on the IHSG. The same result is obtained by Prahesti and Paramita (2020) from January 2009 to December 2019 where NIKKEI does not significantly affect the IHSG. Based on review, the hypothesis of this study noted as follows.

H2: NIKKEI is significant on IHSG

3. Research method

This study uses the world gold price (GOLD), the Japanese market index (NIKKEI), and the Indonesian market index (IHSG) as samples. The sample of this study is drawn from Yahoo Finance with an observation period from January 2021 to December 2021. In the objective of hypothesis testing, the variables used in this study are market returns from GOLD and NIKKEI as independent variables and

IHSG as the dependent variable. Each variable is measured as the difference from the current price minus the previous price divided by the previous price. Hypothesis testing uses multiple regression analysis with the following equation as follows.

$$R_{IHSG} = \alpha_t + \beta_{GOLD} + \beta_{NIKKEI} + \varepsilon_t$$

Before carrying out the multiple regressions, this study carried out classical assumption tests in the form of a normality test, autocorrelation test, multicollinearity test, and heteroscedasticity test. The normality test uses the Kolmogorov-Smirnov test with the aim of seeing the normal distribution of the residual error. The autocorrelation test uses the Durbin-Watson test with the aim of seeing whether there is a correlation between the residual errors. The multicollinearity test uses the maximum value of the variance inflation factor (VIF) of 10 with the aim of seeing whether there is a correlation between the independent variables. The heteroscedasticity test uses the Glejser test to see the variance of the residual error.

4. Result and discussion
4.1. Descriptive statistics

Table 1 presents descriptive statistics from GOLD, NIKKEI, and IHSG. The results of the analysis show that the IHSG has the highest mean return compared to GOLD and NIKKEI. The value of the standard deviation also shows that NIKKEI is more volatile than GOLD and IHSG. The positive skewness of IHSG indicating that market returns are dominated by low returns as the kurtosis indicates leptokurtic.

Table 1. Descriptive statistics

	GOLD	NIKKEI	IHSG
Mean	-0.0001	0.0003	0.0005
Std. Dev.	0.00984	0.01215	0.00914
Skewness	-0.800	-0.089	0.311
Kurtosis	3.404	0.353	0.955

4.2. Classic assumption tests

In the next stage, this study performs the Kolmogorov-Smirnov test to detect whether the residual errors are normally distributed or not. Table 2 presents the results of the normality test for the residual error of the regression model. The statistical value of the Kolmogorov-Smirnov test is 0.044 with a significance level of 0.200 which exceeds 1%, 5% and 10%. Based on these results, it can be concluded that the residual errors of the regression model are normally distributed.

Table 2. Kolmogorov-Smirnov test

	Residual error
Statistic	0.044
df	227
Sig.	0.200

Table 3 presents the results of the autocorrelation test at a significance level of 5%. The results of the autocorrelation test using the Durbin-Watson test show that the statistical value is above the lower or upper limit. The results indicate that the residual error of the regression model does not experience autocorrelation symptoms.

Table 3. Durbin-Watson test

D-stat	2.010513031
D-lower	1.764838899
D-upper	1.800355605
Sig	no

The next classic assumption test is the multicollinearity test. Table 4 presents the results of the multicollinearity test using the variance inflation factor (VIF) limit of 10. The VIF shows a value of 1,000 for the GOLD and NIKKEI variables so it is concluded that between the independent variables there is no multicollinearity.

Table 4. Multicollinearity test

Variable	Tolerance	VIF
GOLD	1.000	1.000
NIKKEI	1.000	1.000

The final assumption test of this study is the heteroscedasticity test at a significance level of 5%. Table 5 presents the results of the heteroscedasticity test using the Glejser test. Based on the Glejser test, GOLD and NIKKEI have no significant effect on the absolute residual error. These results indicate that the variance of the residual error is homoscedasticity.

Table 5. Heteroscedasticity test

	B	t	Sig.
Constant	0.007	18.343	0.000
GOLD	0.029	0.799	0.425
NIKKEI	-0.021	-0.722	0.471

Dependent variable: Absolute residual error

4.3. Hypothesis test

Table 6 shows the result of multiple regressions of the impact of GOLD and NIKKEI on the IHSG. The R-value of 0.351 indicates that there is a moderate relationship between the independent variables and the dependent variable. Moreover, the R Square value of 0.123 indicates that the IHSG model can be explained by 12.3% of GOLD and NIKKEI while 87.7% is explained by other factors not discussed in this study. The results of the F test obtained a statistical value of 15,699 and were significant at the 1%, 5%, and 10% levels so that it can be concluded that the regression model is fit.

Partially, this study finds that GOLD has a t-value of 1.392 with a significance level of 0.165. At the level of 1%, 5%, and 10% so it can be concluded that GOLD does not significantly affect the IHSG so this study rejects H1. This finding consistently supports the findings of Faraga et al. (2012), Anggriana and Paramita (2020), Basit (2020), Adnyana et al. (2022), and Ambarwati et al. (2022). The finding of this study also indicates that investors' preferences are still neutral between gold and stocks as Indonesia has a relatively good economic condition.

Another finding from this study is that NIKKEI has a t-value of 5,431 with a significance level of 0,000. At the level of 1%, 5%, and 10% so it can be concluded that NIKKEI has a significant positive effect on the IHSG so this study accepts H2. This finding consistently supports the findings of Rohmawati and Zuhroh (2019), Darmawan and Saiful Haq (2022), and Gerung et al. (2022). The finding of this study indicates that the economic conditions of Indonesia and Japan are in fairly good condition. This condition resulted in favorable market integration so that investor sentiment tended to be positive regarding the increase in the market indices of both markets.

Table 6. Multiple regressions test

	Coefficients	t	Sig.
Constant	0.000	0.706	0.481
GOLD	0.081	1.392	0.165
NIKKEI	0.256	5.431	0.000
R	0.351		
R Square	0.123		
F-test	15.699		
F-test sig.	0.000		

Dependent variable: IHSG

5. Conclusion

In 2021, Indonesia has succeeded in overcoming economic problems due to the COVID-19 pandemic. The purpose of this study is to examine the impact of world gold prices and market indices in Japan on market conditions in Indonesia. This study finds that gold does not significantly affect the condition of the capital market in Indonesia. This result indicates that investors are still neutral on fluctuations in the movement of gold in the world. Furthermore, this study also finds that the market returns in Japan positively triggers an increase in market returns in Indonesia. This condition tends to indicate that economic stability in Indonesia causes investors to react positively to market developments in Japan.

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